

The Empowering Comparative Supply Chain Operations of Batik SMEs through Uniqueness of Packaging, Productivity and Innovation

Yana Hendayana^{1,*}, Suryana², Disman, M.S², H. Mulyadi², Jumadil Saputra³

¹*Faculty of Business and Management, Universitas Widyatama, Indonesia, Indonesia*

²*Faculty of Economics and Business Education, Universitas Pendidikan Indonesia, Indonesia*

³*Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, Malaysia*

*Corresponding author: yana.hendayana@student.upi.edu

Abstract— The objective of this study is to analyse the impact uniqueness of packaging, productivity and innovation to empowering competitiveness Batik SMEs in West Java Indonesia based on the supply chain operation. In Indonesia the packaging design of batik cloth strengthens its character. The brand image that mostly SMEs in Indonesia want to highlight from batik packaging is the traditional yet elegant impression. The traditional impression was chosen because it wanted to highlight the side of batik craft as a distinctive souvenir and culture, while the elegant image was chosen because so far people thought that the craft was mostly only cheap, especially just packaged using clear plastic or no packaging which became less attractive if given to someone else as a souvenir. With unique packaging, the public image of batik handicraft products expected to be higher. In order to strengthen competitiveness and raise productivity in SMEs Batik in West Java Indonesia, the design was made with an innovated elegant concept so that the image of batik products became higher. Unique and attractive packaging can be seen from the encyclopaedia layout that has never existed for batik packaging and also because so far batik products rarely have packaging. That's why this packaging design is in accordance with the goals and functions to be achieved. For data testing in this research used Partial Least Square (PLS), explanatory method, and simple random sampling. The results shown that the uniqueness of packaging and innovation raise productivity and impact the competitiveness of Batik SMEs in West Java as much as.

Keywords— *Uniqueness of Packaging, Productivity, Innovation, supply chain operation, Competitiveness, Batik, Small Medium Enterprise.*

1. Introduction

The Entry of Indonesian Batik in UNESCO (Representative List of the Intangible Cultural Legacy of Humanity) is acknowledgment worldwide towards one of the eyes of Indonesian culture, so it can persuade and lift the poise of the general population batik skilled workers and supporting organizations improve welfare of the

general population. Presently the custom of batik in Indonesia likewise gone down from age to age, this appearing identified with social personality individuals of Indonesia. Batik from West Java Province is one form of cultural art that is emerged from the local wisdom of the people of West Java. Batik West Java which is divided into several motifs such as Mega Mendung from Cirebon, Garutan batik, Indramayu, Tasik, Bogor and Kuningan in great demand and popular among local and international consumers. With a distinctive shape and batik motifs from West Java are unique and distinctive for consumers. Lots of consumers who like Mega Mendung type batik, because of the material from this batik uses fabrics with premium quality, for example in the batik centre in Trusmi Cirebon unfortunately in this centre it has problems related to packaging and product innovation. Packaging which is less and the form of clothing made from batik cloth that is less innovative make customers reluctant to buy and are not effective with the quality of the batik. Most SMEs there only wrap good quality batik with plastic. Packaging should act as a product of protection or product safety from things that can damage the product, moreover if the products itself is expensive.

According to the Kotler and Armstrong packaging is a form of activity that involves design and production, so that this packaging can function so that the products inside can be protected [1-4]. Product innovation in West Java centre of Batik artisan also need to be increase, Kotler added that innovation is not only limited on developing new products or services. Innovation is also included on new business thinking and new processes. Innovation is also seen as company mechanism to adapt to a dynamic environment. Then the SMEs is

expected to create new thoughts, new ideas that offer innovative products and deliver satisfying service for customers. Innovation has more meaning important not only as a tool to maintain continuity SMEs life but also to compete in competition [5, 6].

With the reduced interest in buying, it will certainly reduce the level of batik production from craftsmen in the centres in West Java, in the end competitiveness will decline to compete with other batik artisans in Indonesia. Prabhowo additionally expressed a similar thing, that visual depiction positively affects rash purchasing choices; the plan structure positively affects imprudent obtaining choices. The plan of an item serves to pass on the aim of the item to purchasers. Purchasers acquire the motivation behind the item through a blend of physical appearance of the item, for example, shading, shape, and material utilized. Item configuration likewise serves to make benefits against the aggressive weights of an item available and add to make the item's prosperity [7]. Past research by Dharmeria uncovered the critical impact of packaging uniqueness on purchaser buying choices, other result acquired from research by Hidayat, product packaging attractiveness of a product due to dealing with consumers [8-12].

In connection with the research above, there is phenomenon in Indonesia, that design packaging and innovation of local product often fails to attract consumer intention to buy. The existence of local products is very susceptible to competitiveness, especially if it does not have a uniqueness and innovation that can increase consumer awareness of the existence of these products this also decrease the level of productivity in batik SMEs. Related to previous data and research this study intends to examine whether the empowerment of batik SMEs through uniqueness of packaging, productivity and innovation can impact competitiveness.

2. Literature Review

2.2 Innovation

Kotler and Keller states that innovations are products, services, ideas, and new perception of someone. Innovation is a product or service that is perceived by consumers as new products or services. Simply, innovation can be interpreted as a breakthrough related to new products. But Kotler added that innovation is not only limited on developing new products or services. Innovation is

also included on new business thinking and new processes. Innovation is also seen as company mechanism to adapt to a dynamic environment. Therefore, the company is expected to create thoughts new, new ideas that offer innovative products and deliver satisfying service for customers. Innovation has more meaning important not only as a tool to maintain continuity company life but also to excel in competition [13-15].

Hubeis characterizes innovation as a change or a major thought in a lot of data identified with information and yield. From these definitions, two things are gotten, specifically item development and procedure advancement which in a monetary sense is called advancement in the event that the item or procedure is improved, and afterward it very well may be the start of the business procedure in the market [16]. As indicated by Kotler and Keller measurements of innovation : a) New items for the world, b) New product offering, c) Addition to existing product offerings, d) Repair and update of existing items. d) Determination, e) Cost decrease [17].

2.3 Uniqueness of Packaging

Shading assumes a critical job in conveying intellectual messages to forthcoming purchaser, Aaker in her research (1997) inferred that there were five hues that rule the market with each subjective note, that is light blue symbolizes genuineness, red symbolizes premium, green symbolizes ability, purple symbolizes foundation and yellow symbolizes perseverance. The shading above isn't totally can be utilized as shading predominance in item plan, purchasers with a statistic foundation have distinctive tastes and discernments diverse as well. An examination directed by Joe Hallock in "shading task" that buyers are either men or ladies like the item overwhelmed by light blue, and don't care for items with darker shading. The respondents generally are the general population of Europe. In various cases, culture impact shading observation, for example, pink is female shading. While dark and dim blue is male shading. Different elements that decide item configuration are the choice of content or textual style and furthermore photographs or pictures utilized [18-22].

According to Nillson & Ostrom in Cahyorini & Rusfian, packaging design variables consist of 3 dimensions, namely: graphic design, structure

product design and information [23]. Raheem, Vishnu, & Ahmed with packaging, increased sales can increase and market share and reduce promotion and market costs [24-26]. In addition, Rundh in Raheem, Vishnu, & Ahmed, states that packaging can attract consumers' attention to certain brands, improve their image, and stimulate consumer perceptions about products [27-30]. Then, packaging also conveys the typical value of a product. Packaging also acts as a tool for differentiation and helps consumers to decide products from a variety of parallel products, and packaging also stimulates customer buying behaviour [31].

According to Rita Kuvykaite in Deliya, & Parmar, there are six variables that must be considered by producers and designers when making efficient packaging, namely shape, size, colour, graphics, material and taste. Similarly, Kotler in Deliya, & Parmar, distinguishes six elements which he thinks must be evaluated when using packaging decisions, namely size, shape, material, colour, text and brand [4].

2.4 Productivity

Stevenson (1999) describes productivity as a required instrument in assessing and checking the execution of an association, particularly a business association. At the point when coordinated at explicit issues and issues, profitability measures can be incredible. Generally, efficiency measures are the measuring sticks of viable asset use. Sedarmayanti express these measurements in productivity are: (1) Efficiency, (2) Effectiveness, (3) Quality [18]. The pointers utilized in supporting these measurements are: (1) Efficiency Dimension which comprises of four markers to be specific; (a) The work relations of individual subordinates, (b) Relationship of work with bosses, (c) Guarantees of medicinal services, (d) Social security of business (2) Dimensions of Effectiveness which comprises of two markers to be specific; (a) Work morals, (b) Work discipline, (3) Quality measurement which comprises of two markers specifically; (a) Skills, (b) Work understanding.

2.5 Competitiveness

Porter states that competitiveness is a capacity of an economy to give its inhabitants a rising way of life and a high work on a feasible premise, other assessment from D'Andrea states that aggressiveness is capacity to deliver products and

ventures that meet the trial of global challenge while our residents appreciate a way of life that is both rising and manageable [31]. Hung and Chang depicts a company's competitiveness is its financial quality against its adversaries in the worldwide commercial centre where items, administrations, individuals and developments move openly regardless of the topographical limits. Another definition states by Muhardi Operational competitiveness is a working capacity that isn't just situated inside yet additionally exits (remotely), which proactively reacts to the objective business advertise [13]. The components of an organization's competitiveness as expressed by Ward et al. comprises of costs, quality, conveyance time and adaptability [22].

2.6 Theoretical Framework

The uniqueness of a product packaging may be an added value in attracting consumer interest. Unique packaging is difficult to find and this is what often fosters curiosity and interest in consumers. When a consumer sees the packaging of a unique food or beverage product that he has never met, his desire to buy appears. When he buys it, consumers usually want to share information or tell their friends. So the consumer takes pictures with the camera and uploads it to his social media account. With these actions, the product has been promoted by consumers, so that it will bring the next consumers. Thus, profits are not only obtained by consumers, but also obtained by the company.

Rundh study how packaging and packaging design can contribute to competitive advantage for marketing a consumer product, demonstrates influences on the design process of a package from external and internal factors. The outcome of the design process is, to a great extent, dependent on the interaction between the main actors in this process. The study argues for the importance of the interaction with customers for planning and conducting the design. The result of such a process is a package that can trigger customers make a purchase and/or re-inforce the brand name for a re-purchase of the product [17]. Past research lead by Pramayani came about that strengthening added to the accomplishment of the organization. Having innovative behaviour is likewise essential for creating advancement in expanding efficiency. Other than that productivity can be expanded by giving consolation that can propel crafted by representatives [2].

Skapars et al examine the impact of productivity on competitiveness of Latvia, in recent years, the dynamics of labour costs and productivity were largely determined by factors of structural nature. With the economic growth resuming, wage growth is becoming more rapid, substantially due to the growing competition, economic structural transformation process is largely dependent on the quality of the institutional framework (legislation, state aid and economic and political institutions),

which provides goods and resources market efficiency, minimizing the redistribution process costs and risks, thereby strengthening the country's competitive benefits [19, 12].

Variables above are interconnected uniqueness of packaging, productivity and innovation are expected to improve competitiveness in business, and this is supported by several previous studies. Framework for this study depict in model below:

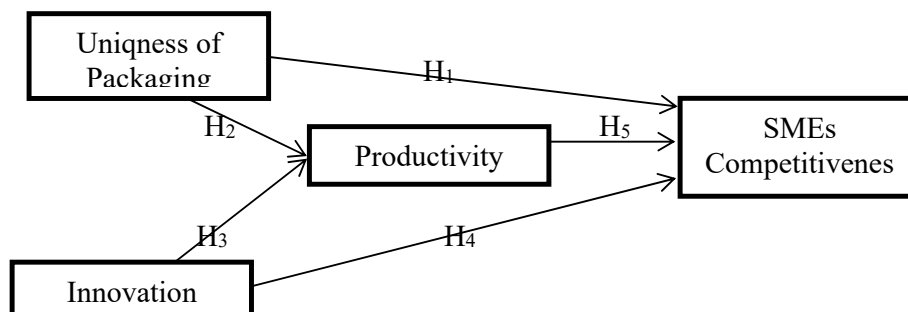


Figure 1. Research Framework and Hypothesis

3. Methodology

The population is the theory area which includes articles or subjects that have quality and certain credits associated by researchers to think and a short time later achieved the derivation [23-27]. This research is quantitative with the purpose of delineating the lead of purchasers obtaining batik. The method used in this examination is the investigation methodology. Data gathering is done by a couple of systems, to be explicit by using reviews, gatherings and observations. Data obtained through a couple of request submitted to respondents as reviews as open and shut request, upgraded by gatherings with a couple of respondents and resource individuals who are seen as vital, and by referencing direct noticeable certainties of the inquiry under examination. The data used in this examination is sourced from basic data and discretionary data. Fundamental data, to be explicit data gained in the field through surveys and direct gatherings with picked respondents.

This research was coordinated in the West Java region, with the decision of an obliged zone, specifically around the city of Bandung. The precedent in this examination was directed by non-probability assessing systems, specifically by purposive testing method, where the case of research was picked conceptually reliant on explicit criteria and thoughts appropriate to the investigation. The thoughts used in this

examination are respondents who are customers of high quality composed batik things, who are in the region of batik bargains in the domain around West Java, have purchased carefully assembled composed batik things and can settle on getting decisions uninhibitedly with age 21 years or more, the quantity of test taken as per the hypothesis from Malhotra which recommends that the quantity of tests must be no less than four or multiple times the quantity of pointers in the exploration, from the table operationalization factors underneath there is 12 marker that utilized in this exploration, and the quantity of tests taken is 60 respondent [12, 28]. The technique for information investigation (approval, unwavering quality and theory testing) utilizing Partial Least Square Method kept running by XLSTAT Software. Hypothesis for this research are:

- 1) H₁: Uniqueness of Packaging impact directly on SMEs Competitiveness.
- 2) H₂: Uniqueness of Packaging impact indirectly on SMEs Competitiveness.
- 3) H₃: Innovation impact indirectly on SMEs Competitiveness.
- 4) H₄: Innovation impact directly on SMEs Competitiveness.
- 5) H₅: Productivity impact on SMEs Competitiveness.

4. Result and Discussion

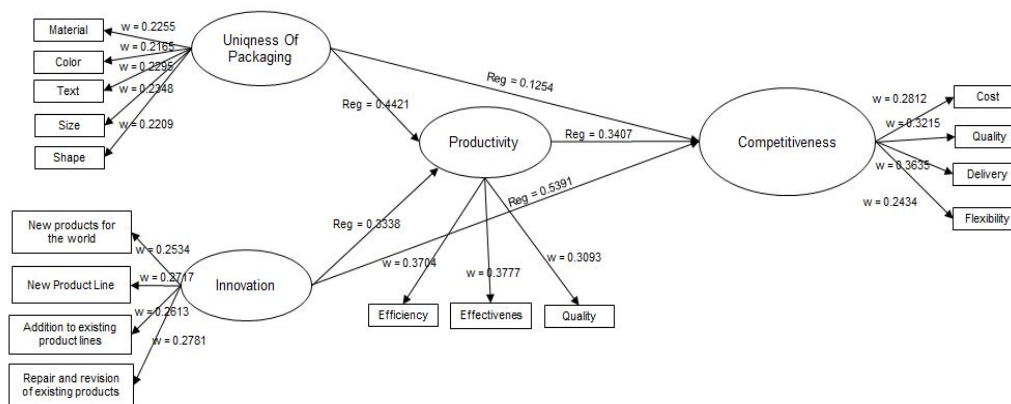


Figure 2. Result of Hypothesis Testing Using XLSTAT

4.1 Outer and Inner Model Evaluation

Table 1. Result of Outer and Inner Measurement

Variable	Dimension	Outer Measurement				Inner Measurement
		Validity		Reliability		Goodness Of Fit Model
		Cross Loading	Mean Communalities (AVE)	Cronbach's alpha	D.G. rho (PCA)	
Uniqueness Of Packaging	Material	0.877	0.787	0.932	0.948	0.921
	Color	0.906				
	Text	0.896				
	Size	0.871				
	Shape	0.885				
Innovation	New products for the world	0.874	0.881	0.954	0.967	
	New Product Line	0.959				
	Addition to existing product lines	0.955				
	Repair and revision of existing products	0.963				
Productivity	Efficiency	0.956	0.893	0.940	0.961	
	Effectiveness	0.945				
	Quality	0.932				
Competitiveness	Cost	0.815	0.675	0.840	0.893	
	Quality	0.830				
	Delivery Time	0.876				
	Flexibility	0.760				

From data above the results of data processing from questionnaires using XLSTAT software indicate the indicator in convergent validity value of each variable has a factor loading more than 0.50 means the statement in the questionnaire valid, the higher the factor loading the higher the validity. From table 1 above show that the value AVE and communality from overall variable greater than 0.5 and met the criteria discriminant validity. So that it can be stated that the question items are valid in measuring the variable. For Reliability test using Cronbach Alpha and D.G. rho (PCA), from table 1

above the value of using Cronbach Alpha and D.G. rho (PCA) indicate that construct of each variable has a Cronbach Alpha more than 0.70 means the statement in the questionnaire reliable and can represent the variables in this study. The GoF value of 0.9210 means that the diversity of data can be explained by the model or in other words the information contained in the data is 92.10% can be explained by the model. While the remaining 7.9% is explained by other variables outside the model used in this study.

Table 2. Result of Hypothesis Testing

Hypotheses	Impact							Result
	Direct			Indirect				
	Path Coefficient	t-stat	Prob.	Exogenous	Endogenous	Intervening	Impact	
H1	0.1254	1.128	0.264					Rejected
H2		2.253	0.028	Uniqueness of Packaging	Competitiveness	Productivity	0.067	Accepted
H3		1.701	0.094	Innovation	Competitiveness	Productivity	0.183	Rejected
H4	0.5391	4.936	0.000					Accepted
H5	0.3407	4.777	0.000					Accepted

Note: t table for n = 60 (df: 2) and alpha 5% is 2.001

The results of testing the direct and indirect impact hypothesis in this study can be seen in table 2 above, H₁ not accepted means uniqueness of packaging doesn't impact directly to competitiveness of Batik SME in West Java. H₂ accepted means uniqueness of packaging impact indirectly to competitiveness of Batik SME in West Java moderate by productivity. H₃ not accepted means innovation doesn't impact indirectly to competitiveness, productivity cannot moderate this two variable. H₄ accepted innovation impact directly to competitiveness. H₅ accepted means productivity impact competitiveness.

5. Discussions

From the results of the questionnaire data collection above, supporting several previous studies, research by Dharmeria the results of this study found that the uniqueness of the product packaging design is influential positive and not significant to the emotional appeal of the product, the uniqueness of the packaging design the product has a positive and not significant effect on impulsive purchasing decisions [5]. This past research in line with this research result, the

uniqueness of packaging not significant impact directly on SMEs competitiveness, this result not supported Somadi research that conclude the uniqueness of packaging has a positive effect on the competitiveness of MSMEs in Cimahi, West Java and also support previous research conduct by Pramayani that state innovative behaviour is important for developing innovation in increasing productivity, and productivity can be increased by giving encouragement that is able to motivate the work of employees and increased competitiveness of a firm [2, 20].

6. Conclusion and Recommendation

Uniqueness of packaging need to moderate by productivity of West Java Batik SMEs itself, the higher productivity can increase the value of competitiveness, it means packaging still need to be produce correctly by SMEs, not only unique in design but also good in quality. Opposite with packaging, innovation can impact directly to competitiveness, from perspective of a consumer, SMEs with good innovative idea can create innovate product and survive the competitiveness whether it productive or not. Lastly, productivity

also view as important variable that can increase or decrease the value of SMEs competitiveness, if SMEs production of Batik left behind so their then their competitors will take the market and gaining title as pioneer. Originality also important for high value product like Batik, some consumer feel more privileged if they wearing latest design of Batik cloth. So SMEs have to considering this situation of productivity in in the production process.

This research was only conducted on customers West Java Batik SMEs domiciled in Bandung. In future research can conduct research on customers of West Java Batik SMEs domiciled in others city. To ensure external validity, broader samples are needed throughout the diverse geographies needed in future research. The variables used in this study are limited. For future research can be added to other variables not examined in this study which also have an impact towards competitiveness.

References

- [1] Aaker, J. L. 1997. Dimensions of brand personality. *Journal of Marketing Research* Vol. 34, No. 3 (Aug., 1997), pp. 347-356. Sage Publications, Inc.
- [2] A Sagung Diah Istri Pramayani, A & Gusti Ayu Dewi Adnyani, I. (2018). Pengaruh Pemberdayaan, Perilaku Inovatif, Dan Motivasi Kerja Terhadap Produktivitas Kerja Karyawan Bumbu Bali Restoran Tanjung Benoa Badung, Bali. *INOBISS: Jurnal Inovasi Bisnis dan Manajemen Indonesia*. 2. 1-15. 10.31842/jurnal-inobis.v2i1.57.
- [3] Cahyorini. 2012. The Effect of Packaging Design on Impulsive Buying. *Journal of Administrative Science & Organization*, January 2011, Page 11-21. Volume 18, Number 1
- [4] Deliya, Mitul & Parmar, Bhavesh. (2012). Role of packaging on consumer buying behavior--Patan district. *Global Journal of Management and Business Research*. 12.
- [5] Dhameria, Vita. 2014. Analisis Pengaruh Keunikan Desain Kemasan Produk, Kondusivitas Store Environment, Kualitas Display Produk Terhadap Keputusan Pembelian Impulsif. *Jurnal Sains Pemasaran Indonesia* 1. *Jurnal Sains Pemasaran Indonesia*. Volume XIII, No.1, Mei 2014, halaman 1 – 44.
- [6] Hallock, J. 2003. *Colour assignment*. Washington: New Media Communications 498.
- [7] Hidayat, M. J. 2011. Tinjauan kognisi desain produk kemasan sebagai unsur identitas budaya populer atas produk kemasan makanan industri kecil menengah (IKM). *Kawistara*. 1(3), 213–320.
- [8] Hubeis, Musa dkk. 2012. *Komunikasi Profesional*. Bogor : IPB Press.
- [9] Kotler, Philip and Kevin Lane Keller, (2016): *Marketing Management*, 15th Edition. New Jersey: Pearson Prentice Hall, Inc.
- [10] Kotler, Philip Dan Kevin Lane Keller. 2009. *Manajemen Pemasaran*. Edisi 13 Jilid satu. Erlangga : Jakarta.
- [11] Kotler, P., & Keller, K. L. 2012. *Marketing management*. Global Edition 14e. London: Pearson Education Limited.
- [12] Malhotra, Naresh K. 2006. *Marketing Research An Applied Orientation*. Prentice Hall, United State of America.
- [13] Muhandi. 2007. *Strategi Operasi: Untuk Keunggulan Bersaing*. Yogyakarta: Graha Ilmu.
- [14] Prabhowo, A. 2018. Analisis pengaruh keunikan desain kemasan produk terhadap keputusan pembelian impulsif (studi pada produk Kopi Good Day di Yogyakarta). UII.
- [15] Porter, M.E. (1990) *The Competitive Advantage of Nations*. *Competitive Intelligence Review*, 1, 14. <http://dx.doi.org/10.1002/cir.3880010112>.
- [16] Raheem, Rizwan et all. 2014. Impact Of Product Packaging On Consumer's Buying Behavior. *European Journal of Scientific Research*, Vol. 122, No 2, 2014. DOI: http://www.europeanjournalofscientificresearch.com/issues/EJSR_122_2.html.
- [17] Rundh, Bo. 2009. Packaging design: Creating competitive advantage with product packaging. *British Food Journal* 111(9):988-1002 • September 2009.
- [18] Sedarmayanti. 2009. *Sumber Daya Manusia dan Produktivitas Kerja*. Bandung: CV. Mandar Maju.
- [19] Skapars et all. 2017. Productivity and its Impact on the Competitiveness of Latvia. *European Research Studies Journal*. Volume XX, Issue 3A, 2017.
- [20] Somadi. 2017. *Strategi Peningkatan Daya Saing Industri Kecil Dan Menengah (Ikm)*

- Gula Aren Di Kabupaten Bandung Barat. Repositori Unpas. Thesis.
- [21] D'Andrea A, Rengaraju M, Valiante NM, Chehimi J, Kubin M, Aste M, Chan SH, Kobayashi M, Young D, Nickbarg E. Production of natural killer cell stimulatory factor (interleukin 12) by peripheral blood mononuclear cells. *Journal of Experimental Medicine*. 1992 Nov 1;176(5):1387-98.
- [22] Ward WK, Wilgus ES, inventors; Ward, W. Kenneth, Wilgus, Eric S., assignee. Device for monitoring changes in analyte concentration. United States patent US 5,711,861. 1998 Jan 27.
- [23] Sugiyono S. Lisan dan Kalam: Kajian Semantik al-Qur'an. 2009.
- [24] Mousavi Kouhpar SY, Rabiee Mondajin M, Amirkabiri A. Study of Intellectual Capital on Employees Capabilities in Judicial Organization. *Journal of Humanities Insights*. 2019;03(02):65-9.
- [25] Kord, H., Noushiravani, Y., Bahadori, M. D., & Jahantigh, M. (2017). Review and Analysis of Telework Perspective in the Administrative Systems. *Dutch Journal of Finance and Management*, 1(2), 44. <https://doi.org/10.29333/djfm/5820>
- [26] Marques, C. G., Manso, A., Ferreira, A. P., Morgado, F., & Gaspar, M. (2017). Learning Information Systems: Designing Education Programs Using Letrinhas. *Journal of Information Systems Engineering & Management*, 2(1), 6. <https://doi.org/10.20897/jisem.201706>
- [27] Muhammad K. The Effects of Electronic Human Resource Management on Financial Institutes. *Journal of Humanities Insights*. 2018;02(01):01-5.
- [28] Gerami, Y., & Kordlouie, H. (2016). The relationship between audit tenure and audit opinion in Tehran Stock Exchange. *UCT Journal of Management and Accounting Studies*, 4(4), 1-8.
- [29] Córdova-Rangel, A., Escalera-Chavez, M. E., & Gasca, S. B. (2017). Mathematics really generates anxiety? Empirical Study in middle school students. *International Electronic Journal of Mathematics Education*, 12(1), 88-97.
- [30] Hosseini A, Jalali M. The Possible Biological Effects of Long-term Stress on Depression. *Medbiotech Journal*. 2018;02(04):149-52.
- [31] Rofiq, M., Putra, Y. S., Mahmudy, W. F., Tolle, H., Wahyuni, I., Adipraja, P. F. E., & Syandri, H. (2019). Integrating fuzzy logic and genetic algorithm for upwelling prediction in Maninjau Lake. *Telkomnika*, 17(1), 226-234.